## MEAN LAKE LEVELS DURING NOVEMBER, 1928

By UNITED STATES LAFE SURVEY [Detroit, Mich., December 3, 1928]

The following data are reported in the Notice to Mariners of the above date:

Data	Lakes 1			
	Superior	Michi- gan and Huron	Erie	Ontario
Mean level during November, 1928: Above mean sea level at New York	Feet 603, 39	Feet 580, 61	Feet 571, 73	Feet 245, 67
Above or below	000.00	000.01	071.70	
Mean stage of October, 1928	-0.16	+0.16	-0.13	-0.09
Mean stage of November, 1927 Average stage for November, last	+0.87	+1.71	+0.64	+0.82
10 years Highest recorded November	+1.32	+1.25	+0.28	+0.57
stage Lowest recorded November stage.	$-0.12 \\ +2.33$	$   \begin{array}{r}     -2.31 \\     +2.93   \end{array} $	-1.94 +1.28	-2.15 +2.26
Average departure (since 1860) of the November level from the October level	-0 <sub>1</sub> 16	-0. 26	-0. 26	-0.23

<sup>1</sup> Lake St. Clair's level: In November, 1928, 574.98 feet.

## EFFECT OF WEATHER ON CROPS AND FARMING OPERA-TIONS, NOVEMBER, 1928

By J. B. KINCER

General summary.—During the first decade generous rains in the Southwestern States materially improved the condition of the soil in that area and benefited ranges and pastures, as well as truck crops in the more southern districts. Additional moisture in the central Rocky Mountain area was also helpful, but the cold wave that overspread the Great Plains States was detrimental to outside operations, while there was some damage to down corn by mud and heavy snow in parts of the upper Mississippi Valley. Light to heavy frost extended southward to the northern parts of the east Gulf States, while in the Middle West a hard freeze overspread northwestern Texas; very little harm was done.

Heavy to excessive rains in parts of the interior valleys and the southern Plains States during the second decade were generally unfavorable for agricultural interests, especially for gathering corn, with local damage from floods, the latter principally in eastern Kansas. Elsewhere the period was generally favorable for outdoor operations, especially over the eastern third of the country. In the Western States the abrupt change to colder was rather hard on livestock, but the storms were not severe, as a rule, and no materially damaging low temperatures occurred.

During the last decade the unseasonably cold weather in the more Southeastern States, which brought freezing temperatures to the Gulf coast and heavy frost well southward over the Florida peninsula, resulted in damage to tender vegetation—such as beans, peppers, and eggplants—southward to the Okeechobee district in Florida, while some tender truck crops were nipped farther north; little harm resulted to the hardier varieties. Except in the Northeast, the weather was generally favorable for outdoor operations and seasonal farm work made good advance. Moisture was needed in the South Atlantic and east Gulf sections, but otherwise the soil was well supplied. There was but little snow cover at the close of the month, while the mild weather in the western mountain districts resulted in considerable melting of the previous deposit.

Small grains.—During the first decade growth of winter wheat was materially retarded by cold weather over much of the principal producing area, but moisture was mostly abundant and conditions continued satisfactory. Showers were helpful in the Ohio Valley and additional rain or snow in the Southwest favored fall-sown grains, but in the far Northwest moisture was still insufficient. During the second decade precipitation in the Pacific Coast States and Rocky Mountain districts was favorable for winter wheat, while further showers were helpful in parts of the East, although all fall grains needed moisture in the Southeast. There was some local damage by flooding in the lower Missouri and upper Mississippi Valleys, but conditions continued mostly favorable in the main winter wheat belt. During the last decade cool weather retarded growth of winter wheat in the eastern part of the belt, but elsewhere satisfactory advance continued, with the soil in excellent shape generally. Conditions were less favorable in the Pacific Northwest, where moisture was needed, and it was rather dry for winter grains in the Southeast and some adjoining sections.

Corn.—During the first decade corn husking made good advance in the Ohio Valley, except for some interruption by rains, while in Iowa heavy rains or snows on the first of the month stopped work, with some damage to down corn from snow and mud. Husking was retarded also in the Great Plains, but elsewhere this work made good advance. During the second decade frequent rains caused interruption to housing, especially in the Mississippi Valley and southern Great Plains; there was some damage by flooding, while high winds blew down more corn in Iowa and leveled shocks in the western Lake region. In the northern Great Plains, the upper Ohio Valley, and generally in the Atlantic Coast States, conditions were mostly favorable and husking made good advance. During the last decade much better weather for gathering corn prevailed and in Iowa conditions were very favorable for husking, though soft fields caused some delay. Housing the corn crop was well along, or about completed, at the close of the month, except in parts of the Mississippi Valley.

Cotton.—During the first decade the weather was mostly favorable for outside operations in the eastern part of the belt, and picking the remaining crop made satisfactory advance in most sections. There was some delay by rain in Arkansas, and in Oklahoma conditions were unfavorable for picking, while in northwestern Texas growth was stopped by killing frost. During the second decade scrapping made good advance east of the Mississippi River, but over the northwestern portion conditions were decidedly unfavorable. In Arkansas frequent rains delayed harvest and little progress was made in northern Texas, while in Oklahoma staple was damaged by heavy rains, with picking suspended. During the last decade picking the remaining crop made rather slow advance in the more western and northwestern portions of the belt, because of cool weather and wet fields. In Arkansas conditions were favorable and picking made good progress, with considerable still to gather in some sections; east of the Mississippi River harvest has been nearly completed.

Miscellaneous crops.—Pastures were in fair to good condition, for the season, in most sections east of the Mississippi River and ranges were still affording some feed in the northern Great Plains during the month. The range continued partly open in the northern Rocky